

Allied Modular Power Systems
Concept of Operations
08-31-10

Introduction

Against a backdrop of climate change concerns, Daniel Nocera of MIT in 2006 wrote an article in *Daedalus* stating that in 2002 the world "burned energy at a rate of 13.3 TW..." (terawatts) with a projection that "if 9 billion people adopt the current standard of living for a US resident... the world would need an astronomical 102 TW of energy in 2050."

The overarching international goal is to generate this energy in an environmentally benign manner such that climate change does not destroy the planet as a habitat for the human race.

Many are running in the race to design a silver bullet that will toll the bell for global warming. Contestants include, but are not limited to windmill farms on land and sea, solar farms on land, solar satellites in geostationary orbit, fission nuclear power plants, and fusion nuclear power plants.

Core Concept

Allied Modular Power Systems (AMPS) will engage in the battle against climate change not by trying to develop a silver bullet but, rather, by building the guns that shoot the silver bullets designed by others.

AMPS will start by using natural gas as the energy source for gas turbine power plants operated from floating platforms moored in generating complexes sited on a coastline or along a navigable waterway. The gas turbines can later be adjusted to burn hydrogen or methanol derived from various environmentally benign sources (large fission or fusion nuclear power plants, a network of OTEC plants, a network of ocean wind-wave energy converters, etc). Alternatively, the entire gas turbine power plant can be replaced with standard floating modular fission or fusion nuclear power plants, as they become available.

AMPS will be set up as a franchise network of independent power and water producers with the network operating under BOOM contracts to build, own, operate, and maintain floating plants that sell electricity as a primary product and water as a secondary one.

Each franchisee will have a mission to fulfill a Power Purchase Agreement (PPA) held by corporate AMPS headquarters. For those customers requiring fresh water for drinking and/or agricultural purposes, AMPS corporate headquarters will satisfy the requirements of a Water Purchase Agreement (WPA) by designing, building, and owning standard floating desalination plants to be operated and maintained by the franchisees.

Ideal Form

The standard AMPS franchisee will operate and maintain a nominal 100 Megawatt power plant as well as a desalination plant, if so requested by the customer. In its ideal form, AMPS will replicate this design at 10,000 locations and thus be in a position to generate one (1.0) of the above 102 TW. To put this in perspective, the present total energy requirements for the world are in the 15 TW range. The balance of the power required will be provided by others, using either fission nuclear or a whole host of regenerative power options (wind, solar, geothermal, ocean, OTEC, hydro, biomass, fusion, etc).

AMPS will reflect the U.S. Navy organization developed to design, build, operate, and maintain various classes of standard warships. Thus, a corporate AMPS headquarters will design, market, and own the generating and desalination plants; 10 construction offices will be set up to monitor and oversee the shipyards building the standard plants; and 100 operational support offices will be started with each aligned to provide life cycle support to 100 assigned franchisees that operate and maintain the plants.

Startup Team

Prospective Chairman of the Board: John A. Bewick. Bachelors degree in Engineering Physics from Cornell University, Masters degree in Nuclear Science from the University of Michigan, MBA and DBA from the Harvard Business School, worked in the Reactor Physics section of the Bettis Atomic Power Laboratory designing reactors for the nuclear navy, taught physics at Ahmadu Bello University in Zaria, Nigeria as a member of the Peace Corps, worked at Cabot Corporation siting LNG facilities, at the Atomic Energy Commission on both the licensing process for siting nuclear power plants and on the first quantitative evaluation of nuclear accident risks, served as Massachusetts Secretary for Environmental Affairs under Governor Edward King, was a lecturer at MIT in the Environmental Management course in the Department of Urban Studies, and has over 30 years of experience with environmental and energy management at the local, state and national levels.

Prospective Chief Executive Officer: Leon J. Neihouse. Degree in Physics, MBA, seven years in the U.S. Navy's nuclear powered submarine program, seven years in commercial nuclear power, and over 30 years in shipbuilding.

Prospective Advisor: James E. (Ed) Kaune, Captain, USN (retired). Naval Academy graduate with advanced degrees in Naval Architecture and Marine Engineering at M.I.T. and Metallurgical Engineering at Carnegie Mellon University, former Commanding Officer of Long Beach Naval Shipyard, former General Manager of Todd Shipyards in San Francisco, and founder and Chairman of the Board of Directors of BioLumber®.